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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/667,502	09/22/2000	Masahito Kobayashi	197399US2	9729

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EXAMINER	
PATEL, PARESH H	

ART UNIT	PAPER NUMBER
2829	

DATE MAILED: 04/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/667,502	KOBAYASHI ET AL.	
	Examiner	Art Unit	
	Paresh Patel	2829	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 January 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) *4,9-14 and 19* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5-8 and 15-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 November 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *10* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of Species of fig. 2-3 (Claims 1-3, 5-8 and 15-18) in Paper No. 14 is acknowledged. The traversal is on the ground(s) that "The claims of the present invention would appear to be part of an overlapping search area". This is not found persuasive because method and apparatus as claimed are distinct and require different search for each species e.g. polish plate of fig. 6 (Species 2) is not required in fig. 3 (Species 1) and the location of pressure sensor is different in fig. 3 and 6.

The requirement is still deemed proper and is therefore made FINAL.

This application contains claims 4, 9-14 and 19 drawn to an invention nonelected with traverse in Paper No. 14. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Response to Arguments

Applicant's arguments with respect to claims 1-19 in paper no: 11 have been considered but are moot in view of the new ground(s) of rejection.

Applicant argues that neither references (Nakajima et al. and Rath) disclose measuring a load applied to the object of the inspection. Newly cited reference Fumitaka discloses this limitation [see 19 of fig. 1].

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-3, 5-8, and 15-18 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claims 1 and 5-6, "inspecting electrical properties of the object of the inspection by means of the probes" wherein "means of the probe" is not defined in the specification.

Regarding claims 15 and 16, "the load measured by means of the pressure sensor" wherein "means of the pressure sensor" is not defined in the specification.

Claims depends from these independent claims are also rejected.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-3, 5-8, and 15-18 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1 and 5-6, "inspecting electrical properties of the object of the inspection by means of the probes" wherein **what means are used with probe** is not clear.

Regarding claims 15 and 16, "the load measured by means of the pressure sensor" wherein **what means are used with pressure sensor** is not clear.

Claims depends from these independent claims are also rejected.

For the purpose of Examination Examiner assumes that claims are referring to *"inspecting electrical properties of the object of the inspection by ~~means of~~ the probes"* and *"the load measured by ~~means of~~ the pressure sensor".*

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-3, 5-8 and 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakajima et al (US 5642056) in view of Fumitaka (JP 07-066269).

Regarding Claims 1 and 5-6, Nakajima et al, in Figure1, discloses a probe method comprising steps of:

- moving a main chuck (15) to align an object of inspection (14) on the main chuck with probes (23) of a probe card (22) located over the main chuck;

- moving the main chuck (15) toward the probe card (22), thereby bringing electrodes of the

object of inspection into contact with the probes (column 6, lines 17-19);

- overdriving (70) the main chuck (15) toward the probe card (22) and controlling (70) the movement of the main chuck in accordance with the measured load; and

- inspecting electrical properties of the object of inspection by means of the probes (23)

However, Nakajima et al. does not disclose measuring a load applied to the object of inspection when contacted by the probes by means of a sensor and said sensor is located on at least one of the lower parts of the main chuck and between an LM guide and X-Stage on which the main chuck is set. Fumitaka discloses, in Figure 1) an apparatus wherein the load applied to the object of inspection (14) by means of a sensor (19 of 18) and said sensor is located on at least one of the lower parts of the main chuck [see 19 in fig. 1].

Therefore it would have been obvious to one of ordinary skill in the art to modify Nakajima et al. in view of Fumitaka to incorporate a means to measure the load applied to the object of inspection so as to control the lift system in accordance with measured load (see Abstract).

Regarding Claims 2 and 7, Fumitaka, in Figure 1, discloses a probing method wherein said control of the movement of the main chuck (13 and 15) is control of an overdrive based on the measured load, such that the load has a given value (see abstract).

Regarding Claims 3 and 8, Nakajima et al, in Figure 1, discloses a probing method wherein said control (70) of the movement of the main chuck (15) includes steps of obtaining (column 7, lines 14-20) a distortion of the main chuck in accordance with the measured load and correcting at least one of the dislocations between the object of inspection and the probes in X-, Y-, and θ-directions (column 8, lines 17-22) in accordance with the distortion.

Regarding Claims 15 and 16, Nakajima et al, in Figure 1, discloses a probe apparatus comprising:

- a main chuck (15) carrying an object of inspection (14) thereon

- a probe card (22) having a plurality of probes (23) located over the main chuck (15);

- a drive mechanism for moving the main chuck (15) in X-, Y-, Z-, and θ--directions (See column 8, lines 17-22); and

- a controller (70) for controlling the movement of the main chuck (15) and obtaining a distortion of the main chuck in accordance with a position where the probes (23) touch the object of inspection (14) and the load measured by means of the pressure sensor.

However, Nakajima et al. does not disclose a pressure sensor (55) adapted to measure a load applied to the object of inspection (14) by the probes (23) when the drive mechanism moves the main chuck toward the probe card (22) so that the object of inspection (14) on the main chuck (15) is brought into contact with the probes (23). Fumitaka discloses, in Figure 1, an apparatus wherein a pressure sensor (19 of 18)

adapted to measure a load applied to the object of inspection (14) by the probe (20) when the drive mechanism (11, 12) moves the main chuck (76) toward the probe (16) so that the object of inspection (79) on the main chuck (12 and 15) is brought into contact with the probe (20).

Therefore it would have been obvious to one of ordinary skill in the art to modify Nakajima et al. in view of Fumitaka to incorporate a means to measure the load applied to the object of inspection so as to control the lift system in accordance with measured load (also see Abstract).

Regarding Claim 17, Fumitaka, in Figure 1, discloses a probing apparatus wherein said controller (28, 22, 24) controls an overdrive in accordance with the measured load so that the load has a given value (see abstract).

Regarding Claim 18, Nakajima et al, in Figure 1, discloses a probing apparatus wherein said controller (70) corrects at least one of the dislocations between the object of inspection (14) and the probes (23) in X-, Y-, and 9-directions (column 8, lines 17-22) in accordance with the distortion.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paresh Patel whose telephone number is 703-306-5859. The examiner can normally be reached on M-F (8:30 to 4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kammie Cuneo can be reached on 703-308-1233. The fax phone numbers

for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Paresh Patel
April 4, 2003

KAMAND CUNEO
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